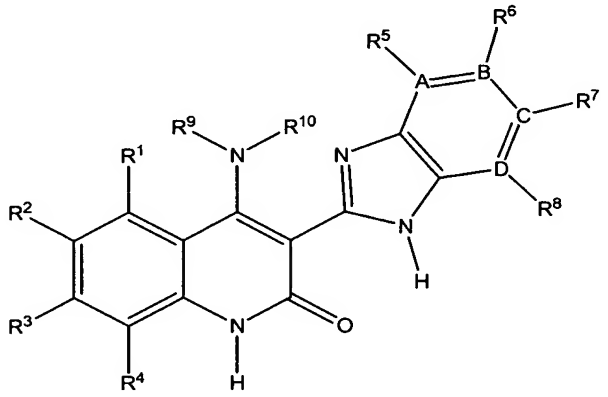
CLAIMS

What is claimed is:

1. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH,

substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -$S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -$N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -$C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and

unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-aryl groups, substituted and unsubstituted -S-aralkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -$S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, substituted and unsubstituted -$S(=O)_2$-N(H)(aryl) groups, substituted and unsubstituted -$S(=O)_2$-N(alkyl)(aryl) groups, substituted and unsubstituted -$S(=O)_2$-$N(aryl)_2$ groups, substituted and unsubstituted -$S(=O)_2$-N(H)(aralkyl) groups, substituted and unsubstituted -$S(=O)_2$-N(alkyl)(aralkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(aralkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted

and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted -N(aryl)$_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted -N(aralkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-aryl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-aralkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-aryl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-aralkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted

-N(alkyl)-S(=O)$_2$-heterocyclylalkyl groups, -N(H)-C(=O)-NH$_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -N(H)-C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-NH$_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(heterocyclyl)$_2$ groups,

substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl groups, substituted and unsubstituted -C(=O)-aralkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^4 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having

from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2-O$-alkyl groups, substituted and unsubstituted $-S(=O)_2-$alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2-N(H)$(alkyl) groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, and substituted and unsubstituted -C(=O)-O-alkyl groups;

R^5 and R^8 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2-O$-alkyl groups, substituted and unsubstituted $-S(=O)_2-$alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2-N(H)$(alkyl) groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl)

groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, -C(=O)-NH$_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -NO$_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -S(=O)$_2$-NH$_2$, substituted and unsubstituted -S(=O)$_2$-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)$_2$-N(alkyl)$_2$ groups, substituted and unsubstituted -S(=O)$_2$-N(H)(heterocyclyl) groups, substituted and unsubstituted -S(=O)$_2$-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -S(=O)$_2$-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -S(=O)$_2$-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -S(=O)$_2$-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -S(=O)$_2$-N(heterocyclylalkyl)$_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and

unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted $-N(H)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and

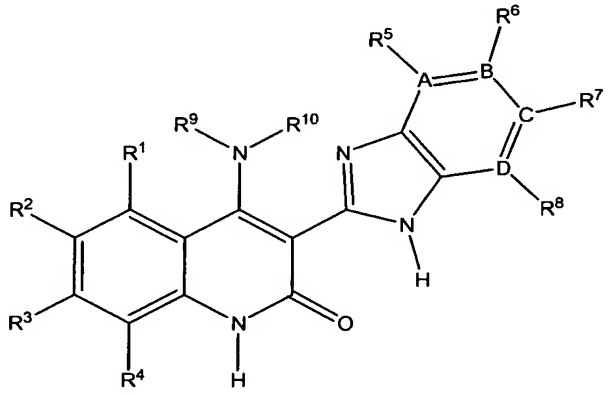
unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted alkoxy groups, and -NH_2, or R^9 and R^{10} join together to form one or more rings, each having 5, 6, or 7 ring members; and

R^{10} is –H, or R^9 and R^{10} join together to form one or more rings, each having 5, 6, or 7 ring members.

2. The method of claim 1, wherein the serine/threonine kinase is glycogen synthase kinase 3, cyclin dependent kinase 2, cyclin dependent kinase 4, checkpoint kinase 1, NEK-2, CHK2, MEK1, CK1ε, Raf, ribosomal S6 kinase 2, or PAR-1.

3. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula and the serine/threonine kinase is glycogen synthase kinase 3



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl

groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -S(=O)-NH$_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)-N(alkyl)$_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH$_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, -C(=O)-NH$_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, -CO$_2$H, and substituted and unsubstituted -C(=O)-O-alkyl groups;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO$_2$, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted cycloalkenyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted

-S(=O)-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, -N(H)-C(=O)-NH_2, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -N(H)-C(=O)-$N(alkyl)_2$ groups, -N(alkyl)-C(=O)-NH_2, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-$N(alkyl)_2$ groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, -CO_2H, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^2 and R^3 may join together to form a cyclic group;

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups,

substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(cycloalkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, $-NH_2$, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, $-N(H)-C(=O)-NH_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(alkyl)_2$ groups, $-N(alkyl)-C(=O)-NH_2$, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups substituted and unsubstituted $-N(alkyl)-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and

unsubstituted -C(=O)-heterocyclyl groups, -C(=O)-NH_2 groups, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, -CO_2H, and substituted and unsubstituted -C(=O)-O-alkyl groups, or R^2 and R^3 may join together to form a cyclic group;

R^4 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -S(=O)$_2$-NH_2, substituted and unsubstituted -S(=O)$_2$-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)$_2$-N(alkyl)$_2$ groups, -OH, substituted and unsubstituted alkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, and substituted and unsubstituted -C(=O)-O-alkyl groups;

R^5 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from

1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^5 may be absent if A is nitrogen;

R^6 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -$S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, -NH_2, substituted and

unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, -C(=O)-NH$_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, -CO$_2$H, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO$_2$, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -S(=O)$_2$-NH$_2$, substituted and

unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, substituted and unsubstituted amidine groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-$N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, -CO_2H, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^7 may be absent if C is nitrogen;

R^8 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl

groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-$S(=O)_2$-alkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, and substituted and unsubstituted -C(=O)-O-alkyl groups; or R^8 may be absent if D is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted alkoxy groups, and -NH_2, or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members; and

R^{10} is –H, or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members.

4. The method of claim 3, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, and straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-CO_2H$, $-NO_2$, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted cycloalkenyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, and substituted and unsubstituted $-N(alkyl)_2$ groups;

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(cycloalkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, $-CO_2H$, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, and substituted and unsubstituted -C(=O)-N(H)(aryl) groups;

R^4 is selected from the group consisting of -H, -F, -Cl, -Br, -I, and straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^5 is selected from the group consisting of -H, -F, -Cl, -Br, -I, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, and substituted and unsubstituted heterocyclyl groups; or R^5 may be absent if A is nitrogen;

R^6 is selected from the group consisting of -H, -F, -Cl, -Br, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, and substituted and unsubstituted -N(alkyl)(heterocyclyl) groups; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -Cl, -F, -Br, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, and substituted and unsubstituted -N(alkyl)(heterocyclyl) groups; or R^7 may be absent if C is nitrogen; and

R^8 is selected from the group consisting of -H, -F, -Cl, -Br, -I, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, and substituted and unsubstituted heterocyclyl groups; or R^8 may be absent if D is nitrogen.

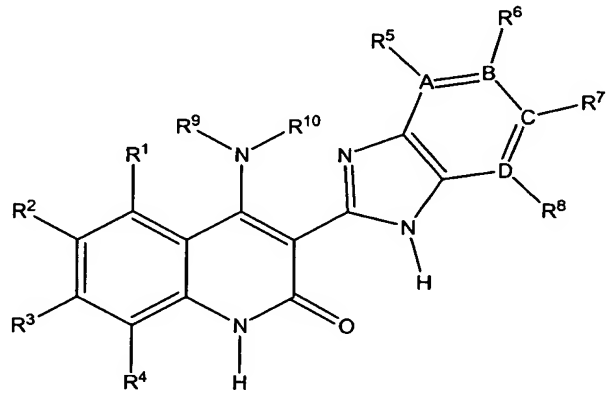
5. The method of claim 3, wherein R^9 is selected from the group consisting of substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted alkoxy groups, and $-NH_2$.

6. The method of claim 3, wherein R^2 is selected from the group consisting of –H, -Cl, -F, -Br, -I, $-CH_3$, $-NO_2$, -OMe, -CN, $-CO_2H$, substituted and unsubstituted 1,2,3,6-tetrahydropyridine groups, substituted and unsubstituted thiophene groups, substituted and unsubstituted imidazole groups, substituted and unsubstituted pyrrole groups, substituted and unsubstituted 3-pyridinyl groups, substituted and unsubstituted 4-pyridinyl groups, phenyl, 2-substituted phenyl groups, 2,4-disubstituted phenyl groups, 4-substituted phenyl groups, 3-substituted phenyl groups, 2,6-disubstituted phenyl groups, 3,4-disubstituted phenyl groups, substituted and unsubstituted dialkylamino groups, and substituted and unsubstituted alkylamino groups.

7. The method of claim 3, wherein R^3 is selected from the group consisting of –H, -F, -Cl, -Br, $-CH_3$, -OH, -CN, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted alkylamino groups, substituted and unsubstituted dialkylamino groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, and $-C(=O)-NH_2$ groups.

8. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of

Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula and the serine/threonine kinase is cyclin dependent kinase 2



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1, R^4, R^5, and R^8 are independently selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted

heterocyclylalkyl groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, and substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, and substituted and unsubstituted -C(=O)-heterocyclylalkyl groups;

R^{10} is –H.

9. The method of claim 8, wherein R^9 is selected from the group consisting of –H, substituted and unsubstituted straight or branched chain alkyl groups having from 1-8 carbon atoms, substituted and unsubstituted saturated heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups wherein the heterocyclyl moiety is saturated, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted heterocyclylalkoxy groups wherein the heterocyclyl moiety is saturated.

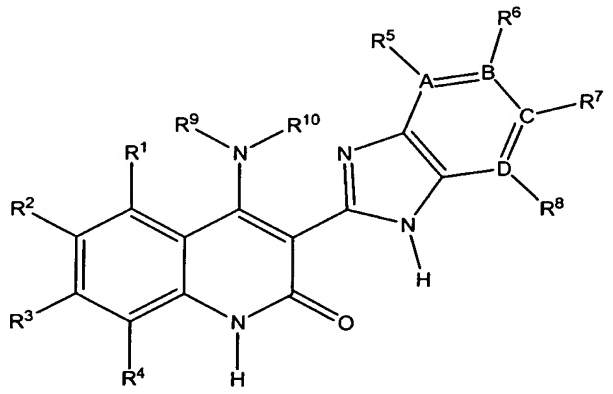
10. The method of claim 8, wherein R^2 is selected from the group consisting of –H, -F, -Cl, -Br, -I, $-NO_2$, -CN, $-NH_2$, substituted and unsubstituted straight or branched chain alkyl groups having from 1 to 8 carbons, substituted and unsubstituted aryl groups, and substituted and unsubstituted pyridinyl groups.

11. The method of claim 8, wherein R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight or

branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups.

12. The method of claim 8, wherein R^6 and R^7 are independently selected from the group consisting of –H, -F, -Cl, -Br, -I, -OH, substituted and unsubstituted -N(alkyl)(piperidinyl), substituted and unsubstituted piperidinyl groups, substituted and unsubstituted morpholinyl groups, substituted and unsubstituted piperazinyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

13. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula and the serine/threonine kinase is checkpoint kinase 1



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups,-SH, substituted and unsubstituted -S-alkyl groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, and substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)$_2$-heterocyclyl groups,

substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2-N(H)(alkyl)$ groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, substituted and unsubstituted $-S(=O)_2-N(H)(aryl)$ groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)(aryl)$ groups, substituted and unsubstituted $-S(=O)_2-N(aryl)_2$ groups, substituted and unsubstituted $-S(=O)_2-N(H)(aralkyl)$ groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)(aralkyl)$ groups, substituted and unsubstituted $-S(=O)_2-N(aralkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted $-N(H)-S(=O)_2-alkyl$ groups, substituted and unsubstituted $-N(H)-S(=O)_2-aryl$ groups, substituted and unsubstituted $-N(H)-S(=O)_2-aralkyl$ groups, substituted and unsubstituted $-N(H)-S(=O)_2-heterocyclyl$ groups, substituted and unsubstituted $-N(H)-S(=O)_2-heterocyclylalkyl$ groups, substituted

and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-S(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclylalkyl groups, $-N(H)-C(=O)-NH_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(aryl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(heterocyclylalkyl)_2$

groups, substituted and unsubstituted -N(alkyl)-C(=O)-NH_2 groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups substituted and unsubstituted -N(alkyl)-C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-$N(aryl)_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-$N(aralkyl)_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-$N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-$N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl groups, substituted and unsubstituted -C(=O)-aralkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-$N(aryl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-$N(aralkyl)_2$ groups, substituted and unsubstituted

-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^4 is selected from the group consisting of –H and substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms;

R^5 and R^8 are independently selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -NO_2, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted

and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -$S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, substituted and unsubstituted -$S(=O)_2$-N(H)(heterocyclyl) groups, substituted and unsubstituted -$S(=O)_2$-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(heterocyclyl)_2$ groups, substituted and unsubstituted -$S(=O)_2$-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -$S(=O)_2$-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(heterocyclylalkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted -$N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted -$N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -$N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-$S(=O)_2$-alkyl groups, substituted and

unsubstituted -N(H)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH$_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO$_2$H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted

and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted alkoxy groups, and $-NH_2$, or R^9 and R^{10} join together to form one or more rings, each having 5, 6, or 7 ring members; and

R^{10} is –H, or R^9 and R^{10} join together to form one or more rings, each having 5, 6, or 7 ring members.

14. The method of claim 13, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and

unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, and substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted

-N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, $-N(H)-C(=O)-NH_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(aryl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted $-N(alkyl)-C(=O)-NH_2$ groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted

-N(alkyl)-C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl groups, substituted and unsubstituted -C(=O)-aralkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted $-C(=O)-N(aryl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted $-C(=O)-N(aralkyl)_2$ groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2-N(H)(alkyl)$ groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy

groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclylalkyl)_2$ groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

15. The method of claim 13, wherein R^9 is selected from the group consisting of substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, and substituted and unsubstituted heterocyclylaminoalkyl groups.

16. The method of claim 13, wherein R^9 is selected from the group consisting of substituted and unsubstituted cyclohexyl groups, substituted and unsubstituted cyclohexylalkyl groups, substituted and unsubstituted pyrrolidinyl groups, substituted and unsubstituted pyrrolidinylalkyl groups, substituted and unsubstituted tetrahydrofuranylalkyl groups, substituted and unsubstituted piperidinyl groups, substituted and unsubstituted piperidinylalkyl groups, substituted and unsubstituted piperazinylalkyl groups, substituted and unsubstituted morpholinylalkyl groups, and substituted and unsubstituted quinuclidinyl groups.

17. The method of claim 13, wherein R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 4 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, and substituted and unsubstituted -N(H)(alkyl) groups.

18. The method of claim 13, wherein R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted straight or branched chain alkyl groups having from 1 to 8 carbon atoms, -OH, substituted and unsubstituted alkoxy groups, substituted

and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups.

19. The method of claim 13, wherein R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2-N(H)(alkyl)$ groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

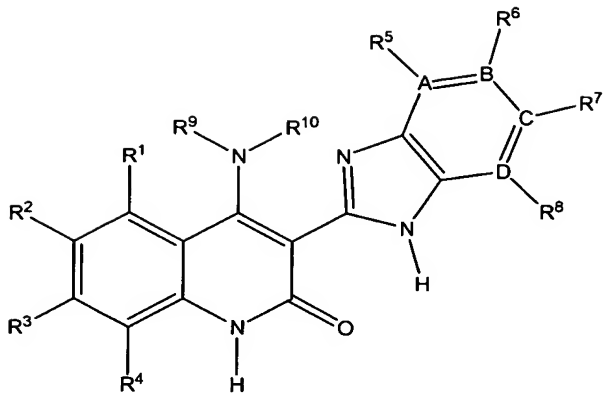
20. The method of claim 13, wherein R^6 and R^7 are independently selected from the group consisting of substituted and unsubstituted heterocyclyl groups and substituted and unsubstituted heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

21. The method of claim 13, wherein R^6 and R^7 are independently selected from the group consisting of substituted and unsubstituted pyrrolidinyl groups, substituted and unsubstituted piperidinylalkyl groups, substituted and unsubstituted piperazinyl groups, substituted and unsubstituted morpholinyl groups, substituted and unsubstituted thiomorpholinyl groups, substituted and unsubstituted dizaepanyl groups, substituted and unsubstituted oxazepanyl groups, and pyridinylalkyl groups.

22. The method of claim 13, wherein the IC_{50} value of the compound is less than or equal to 0.001 μM.

23. The method of claim 13, wherein the biological condition is cancer.

24. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula and the serine/threonine kinase is ribosomal S6 kinase 2



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and

unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-aryl groups, substituted and unsubstituted -S-aralkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups,

substituted and unsubstituted -C(=O)-aryl groups, substituted and unsubstituted -C(=O)-aralkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, substituted and unsubstituted -C(=O)-O-aralkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^2 and R^3 may join together to form a cyclic group,

R^4, R^5, and R^8 are independently selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen.

R^6 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-CN$, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted

heterocyclylalkoxy groups, -CO_2H, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, and substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups;

R^7 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups,-SH, substituted and unsubstituted -S-alkyl groups, -CO_2H, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and

unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, and substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted arylalkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl groups, substituted and unsubstituted -C(=O)-aralkyl

groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, and substituted and unsubstituted -C(=O)-heterocyclylalkyl groups; or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members; and

R^{10} is –H, or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members.

25. The method of claim 24, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, and -CO_2H; or R^2 and R^3 may join together to form a cyclic group

R^6 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; or R^6 may be absent if B is nitrogen;

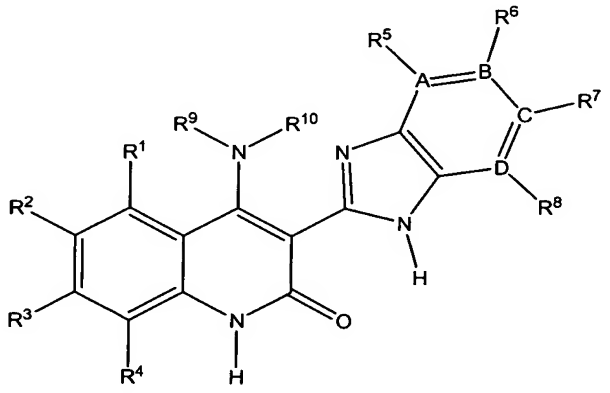
R^7 is selected from the group consisting -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; or R^7 may be absent if C is nitrogen.

26. The method of claim 24, wherein R^9 is selected from the group consisting of –H, substituted and unsubstituted straight or branched chain alkyl groups having from 1-12 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted saturated heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups wherein the heterocyclyl moiety is saturated, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted heterocyclylalkoxy groups wherein the heterocyclyl moiety is saturated.

27. The method of claim 24, wherein R^1 is selected from the group consisting of -H, -F, -Cl, substituted and unsubstituted morpholinyl groups, substituted and unsubstituted morpholinylalkyl groups, and substituted and unsubstituted morpholinylalkoxy groups.

28. The method of claim 24, wherein R^2 is selected from the group consisting of –H, -F, -Cl, -Br, -I, $-NO_2$, $-CH_3$, $-OCH_3$, $-CO_2H$, substituted and unsubstituted aryl groups, and substituted and unsubstituted pyridinyl groups.

29. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure I has the following formula and the serine/threonine kinase is PAR-1



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted

and unsubstituted heterocyclyl groups, and substituted and unsubstituted heterocyclylalkyl groups;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, -OH, substituted and unsubstituted alkoxy, substituted and unsubstituted heterocyclyloxy, substituted and unsubstituted heterocyclylalkoxy, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl, substituted and unsubstituted -C(=O)-aralkyl, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, and substituted and unsubstituted -C(=O)-O-aralkyl groups;

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted

and unsubstituted –S(=O)-aryl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-aryl, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted

and unsubstituted -C(=O)-aryl, substituted and unsubstituted -C(=O)-aralkyl, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted $-C(=O)-N(aryl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted $-C(=O)-N(aralkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$C(=O)-N(heterocyclylalkyl)_2$ groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-aryl groups, substituted and unsubstituted -C(=O)-O-aralkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^4, R^5 and R^8 are independently selected from the group consisting of –H and substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, and substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen;

R^9 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbons, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; and

R^{10} is -H.

30. The method of claim 29, wherein

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and

unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen.

31. The method of claim 29, wherein R^9 is selected from the group consisting of -H, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and

unsubstituted cycloalkyl groups, substituted and unsubstituted heterocyclyl groups, and substituted and unsubstituted heterocyclylalkyl groups.

32. The method of claim 29, wherein R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, and substituted and unsubstituted heterocyclyl groups.

33. The method of claim 29, wherein R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, and substituted and unsubstituted aralkyl groups.

34. The method of claim 29, wherein R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, substituted and unsubstituted straight or branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, and substituted and unsubstituted -N(H)(heterocyclylalkyl) groups.

35. The method of claim 29, R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted straight or branched chain alkyl groups having from 1 to 8

carbon atoms, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen.

36. The method of any of claims 3, 8, 13, 24, or 29, wherein R^9 is selected from the group consisting of quinuclidinyl groups, piperidinyl groups, piperidinylalkyl groups, pyrrolidinyl groups, and aminocyclohexyl groups.

37. The method of any of claims 3 or 13, wherein A, B, C, and D are all carbon, and R^4, R^5, R^6, R^7, R^8, and R^{10} are all -H.

38. The method of any of claims 3, 8, 13, 24, or 29, wherein the IC_{50} value of the compound is less than or equal to 0.1 μM with respect to the serine/threonine kinase.

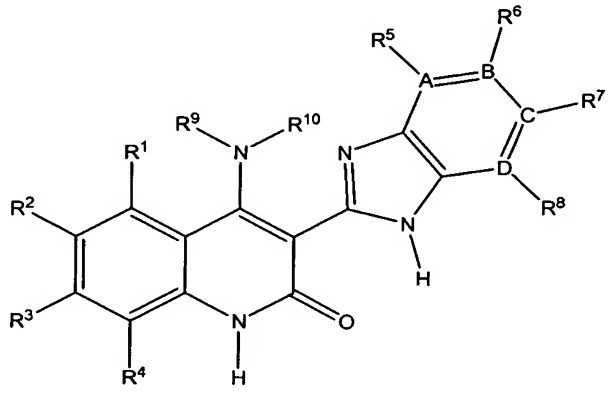
39. The method of any of claims 3, 8, 24, or 29, wherein the biological condition is diabetes.

40. The method of any of claims 3, 8, 13, 24, or 29, wherein the biological condition is Alzheimer's disease.

41. The method of claims 1, 3, 8, 13, 24, or 29, wherein adminstration of the compound to the subject reduces tau phosphorylation.

42. A method of inhibiting a tyrosine kinase in a subject or treating a biological condition mediated by the tyrosine kinase in a subject, comprising: administering to the subject a compound of Structure I, a

tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof, wherein the tyrosine kinase is selected from the group consisting of cell cycle division 2 kinase, Fyn, Lck, c-Kit, c-ABL, VEGFR3, PDGFRα, PDGFRβ, FGFR3, FLT-3, p60src, and Tie-2 and Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted

heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted $-N(alkyl)-S(=O)_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclylalkyl)_2$ groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -NO_2, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -$S(=O)_2$-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted -$N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted -$N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -$N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and

unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-$S(=O)_2$-alkyl groups, substituted and unsubstituted -N(H)-$S(=O)_2$-aryl, substituted and unsubstituted -N(H)-$S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl, substituted and unsubstituted -C(=O)-aralkyl, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and

unsubstituted -C(=O)-O-alkyl groups, C(=O)-O-aryl groups - C(=O)-O-aralkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^4 is selected from the group consisting of –H and substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms;

R^5 and R^8 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted arylakyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted

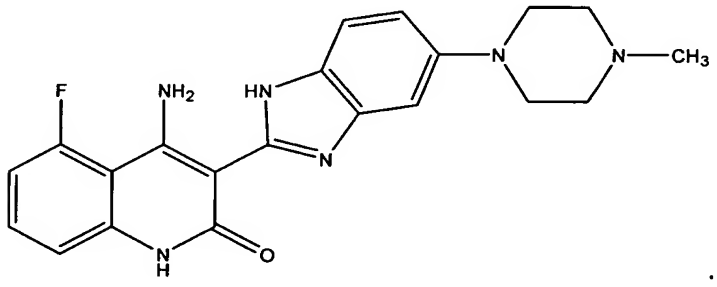
$-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl, substituted and unsubstituted $-N(H)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclylalkyl)_2$

groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen;

R^9 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbons, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, $-NH_2$, and substituted and unsubstituted heterocyclylaminoalkyl; and

R^{10} is -H.

43. The method of claim 42, wherein the compound has the following formula



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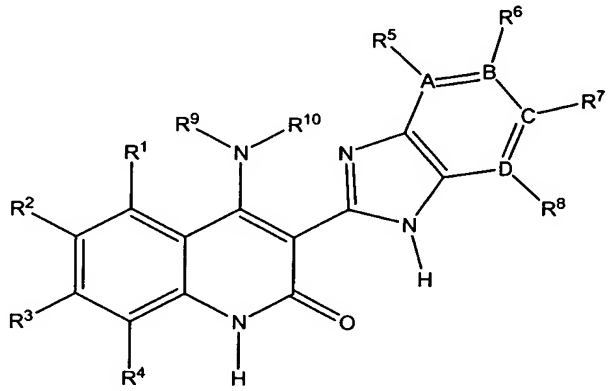
44. A method of inhibiting a tyrosine kinase in a subject or treating a biological condition mediated by the tyrosine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the

compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein the tyrosine kinase is cell cycle division 2 kinase, stem cell factor receptor, stem cell tyrosine kinase I, and Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and

unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -NO_2, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted

heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -$S(=O)_2$-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted -$N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted -$N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -$N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -$N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-aryl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aryl groups, substituted and unsubstituted -N(H)-C(=O)-aralkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-aralkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted

and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -N(H)-$S(=O)_2$-alkyl groups, substituted and unsubstituted -N(H)-$S(=O)_2$-aryl, substituted and unsubstituted -N(H)-$S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-aryl, substituted and unsubstituted -C(=O)-aralkyl, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted -C(=O)-N(aryl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(aralkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, C(=O)-O-aryl groups - C(=O)-O-aralkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^4 is selected from the group consisting of –H and substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms;

R^5 and R^8 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S-heterocyclyl groups, -$S(=O)_2$-NH_2, substituted and unsubstituted -$S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted -$S(=O)_2$-$N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl)

groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen;

R^9 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbons, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted

heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, and $-NH_2$; and

R^{10} is -H.

45. The method of claim 44, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, and substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups;

R^2 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted

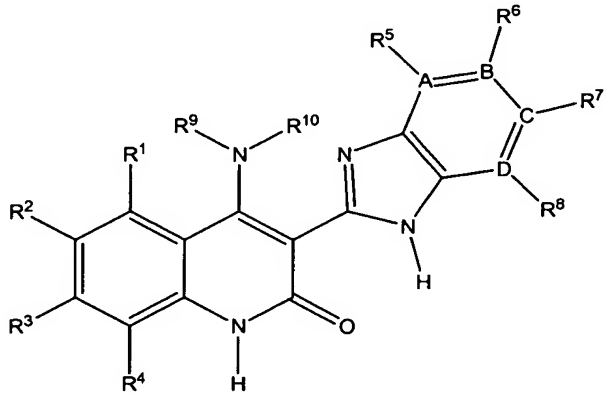
heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(alkyl)(aryl) groups, substituted and unsubstituted $-N(aryl)_2$ groups, substituted and unsubstituted -N(H)(aralkyl) groups, substituted and unsubstituted -N(alkyl)(aralkyl) groups, substituted and unsubstituted $-N(aralkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aryl) groups, substituted and unsubstituted $-C(=O)-N(aryl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(aralkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(aralkyl) groups, substituted and unsubstituted $-C(=O)-N(aralkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-C(=O)-N(heterocyclyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups,

substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -S(=O)$_2$-NH_2, substituted and unsubstituted -S(=O)$_2$-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)$_2$-N(alkyl)$_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and

unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 is absent if B is nitrogen; or R^7 is absent if C is nitrogen.

46. A method of inhibiting a tyrosine kinase in a subject or treating a biological condition mediated by the tyrosine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein the tyrosine kinase is the Fyn oncogene kinase related to SRC, FGR, YES and Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, and substituted and unsubstituted aralkyl groups;

R^4 is selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^5 and R^8 are independently selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted

heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl, substituted and unsubstituted $-N(H)-S(=O)_2$-alkyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted $-N(H)-S(=O)_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, $-CO_2H$, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy; and

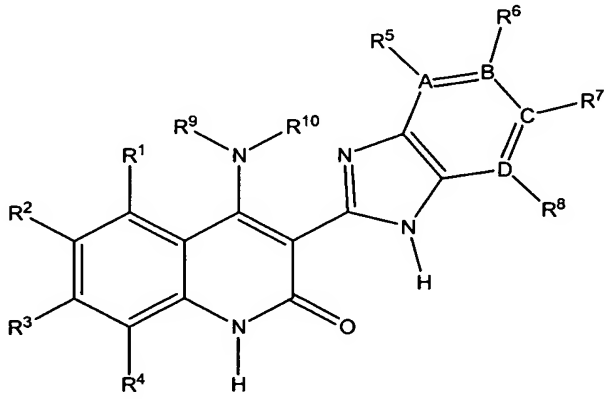
R^{10} is –H.

47. The method of claim 46, wherein

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy, substituted and unsubstituted heterocyclylalkoxy, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl, substituted and

unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, and substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

48. A method of inhibiting a tyrosine kinase in a subject or treating a biological condition mediated by the tyrosine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein the tyrosine kinase is Lck and Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1, R^2, and R^3 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^4 is selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^5 and R^8 are independently selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^5 may be absent if A is nitrogen; or R^8 may be absent if D is nitrogen;

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups,

substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclylalkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl, substituted and unsubstituted -N(H)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-heterocyclylalkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)$_2$-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH$_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, -CO$_2$H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted heterocyclyloxy groups; and

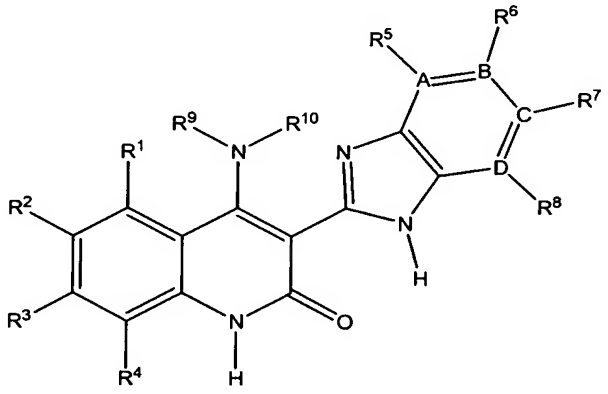
R^{10} is –H.

49. The method of claim 48, wherein

R^6 and R^7 are independently selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy, substituted and unsubstituted heterocyclylalkoxy, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(heterocyclylalkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclylalkyl, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and

unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclylalkyl, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, and substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups; or R^6 may be absent if B is nitrogen; or R^7 may be absent if C is nitrogen.

50. A method of inhibiting a tyrosine kinase in a subject or treating a biological condition mediated by the tyrosine kinase in a subject, comprising: administering to the subject a compound of Structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein the tyrosine kinase is Tie-2 and Structure I has the following formula



I

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, ,-SH, substituted and unsubstituted -S-alkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-N(heterocyclylalkyl)$_2$ groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and

unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups,-SH, substituted and unsubstituted -S-alkyl groups, $-CO_2H$, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclylalkyl) groups, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted $-N(heterocyclyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, and substituted and unsubstituted

-N(H)-S(=O)-alkyl groups; or R^2 and R^3 may join together to form a cyclic group;

R^3 and R^4 are independently selected from the group consisting of –H and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms;

R^5 is selected from the group consisting of -H, -F, -Cl, -Br, -I, and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^5 may be absent if A is nitrogen;

R^6 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, $-NO_2$, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)_2-NH_2$, substituted and unsubstituted $-S(=O)_2$-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)_2-N(alkyl)_2$ groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(aryl)

groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, and substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -CN, -NO_2, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -SH, substituted and unsubstituted -S-alkyl groups, -OH,

substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(aryl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclylalkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(heterocyclyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)$_2$-alkyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclylalkyl groups -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, -C(=O)-N(H)(heterocyclylalkyl) groups, -CO_2H, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted -C(=O)-O-heterocyclyl groups, and substituted and unsubstituted -C(=O)-O-heterocyclylalkyl groups; or R^7 may be absent if C is nitrogen;

R^8 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms; or R^8 may be absent if D is nitrogen;

R^9 is selected from the group consisting of –H, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted aryl groups,

substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, $-NH_2$, and substituted and unsubstituted heterocyclylaminoalkyl; or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members; and

R^{10} is –H.

51. The method of claim 50, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, and substituted and unsubstituted heterocyclylalkoxy groups;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted alkyl groups having from 1 to 12 carbon atoms, substituted and unsubstituted cycloalkenyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted heterocyclylalkoxy groups;

R^6 is selected from the group consisting of -H, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms,

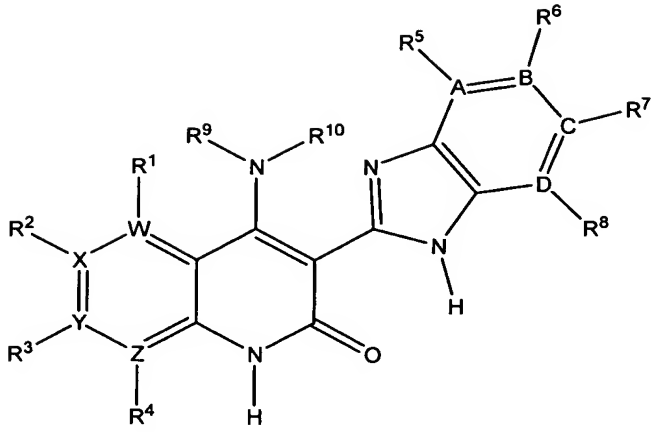
substituted and unsubstituted heterocyclyl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyloxy, substituted and unsubstituted heterocyclylalkoxy, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, and substituted and unsubstituted -N(alkyl)(heterocyclyl) groups; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -Cl, -F, -Br, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, and substituted and unsubstituted -N(alkyl)(heterocyclyl) groups,; or R^7 may be absent if C is nitrogen.

52. The method of any of claims 44, 46, 48, or 50, wherein the IC_{50} value of the compound is less than or equal to 0.1 μM with respect to the tyrosine kinase.

53. The method of any of claims 46 or 48, wherein the biological condition is an autoimmune disease.

54. A method of inhibiting a serine/threonine kinase in a subject or treating a condition mediated by a serine/threonine kinase in a subject, comprising: administering to the subject a compound of Structure IB, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein Structure IB has the following formula



IB

wherein,

A, B, C, and D are independently selected from the group consisting of carbon and nitrogen;

W, X, Y, and Z are independently selected from the group consisting of carbon and nitrogen and at least one of W, X, Y, and Z is a nitrogen;

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, $-NO_2$, -OH, -SH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl)

groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-O-alkyl groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, and substituted and unsubstituted -N(H)-S(=O)-alkyl groups; or R^1 may be absent if W is nitrogen;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -NO_2, -CN, -NH_2, -CO_2H, -OH, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkenyl groups, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -S(=O)$_2$-O-alkyl groups, substituted and unsubstituted -S(=O)$_2$-alkyl groups, substituted and unsubstituted -S(=O)$_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, -S(=O)-NH_2, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)-N(alkyl)$_2$ groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-alkyl groups, substituted and unsubstituted

-N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, $-N(H)-C(=O)-NH_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(alkyl)_2$ groups, $-N(alkyl)-C(=O)-NH_2$, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups, and substituted and unsubstituted $-N(alkyl)-C(=O)-N(alkyl)_2$ groups; or R^2 and R^3 may join together to form a cyclic group when X and Y are both carbon; or R^2 may be absent if X is nitrogen;

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -OH, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkoxy groups, $-CO_2H$, -CN, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(cycloalkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, substituted and unsubstituted -C(=O)-N(H)(aryl) groups, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8

carbon atoms, $-NO_2$, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-O-alkyl groups, $-NH_2$, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups, $-N(H)-C(=O)-NH_2$, substituted and unsubstituted -N(H)-C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-N(H)-C(=O)-N(alkyl)_2$ groups, $-N(alkyl)-C(=O)-NH_2$, substituted and unsubstituted -N(alkyl)-C(=O)-N(H)(alkyl) groups, and substituted and unsubstituted $-N(alkyl)-C(=O)-N(alkyl)_2$ groups; or R^2 and R^3 may join together to form a cyclic group when X and Y are both carbon; or R^3 may be absent if Y is nitrogen;

R^4 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, $-NO_2$, -OH, -SH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -S-

alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -S(=O)-NH_2, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)-$N(alkyl)_2$ groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-O-alkyl groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, and substituted and unsubstituted -N(H)-S(=O)-alkyl groups; or R^4 may be absent if Z is nitrogen

R^5 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, -NO_2, -OH, -SH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted -$S(=O)_2$-O-alkyl groups, substituted and unsubstituted -$S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, -S(=O)-NH_2, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted -S(=O)-$N(alkyl)_2$ groups, -C(=O)-NH_2, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-$N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-O-alkyl groups, -NH_2, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -$N(alkyl)_2$ groups, substituted and unsubstituted

-N(H)-C(=O)-alkyl groups, and substituted and unsubstituted -N(H)-S(=O)-alkyl groups; or R^5 may be absent if A is nitrogen;

R^6 is selected from the group consisting of -H, -Cl, -F, -Br, -OH, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, $-NO_2$, -OH, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-alkyl groups, $-NH_2$, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and

unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, and substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -Cl, -F, -Br, -OH, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, $-NO_2$, -OH, -SH, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted $-S(=O)_2$-heterocyclyl groups, substituted and unsubstituted -S(=O)-alkyl groups, substituted and unsubstituted -S(=O)-heterocyclyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-O-alkyl groups, $-NH_2$, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, substituted and unsubstituted -N(H)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-C(=O)-alkyl groups, substituted and unsubstituted

-N(alkyl)-C(=O)-heterocyclyl groups, substituted and unsubstituted -N(H)-S(=O)-alkyl groups, substituted and unsubstituted -N(H)-S(=O)-heterocyclyl groups, substituted and unsubstituted -N(alkyl)-S(=O)-alkyl groups, and substituted and unsubstituted -N(alkyl)-S(=O)-heterocyclyl groups; or R^7 may be absent if C is nitrogen;

R^8 is selected from the group consisting of -H, -F, -Cl, -Br, -I, substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted alkenyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkynyl groups having from 1 to 8 carbon atoms, -CN, $-NO_2$, -OH, -SH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -S-alkyl groups, substituted and unsubstituted $-S(=O)_2$-O-alkyl groups, substituted and unsubstituted $-S(=O)_2$-alkyl groups, substituted and unsubstituted -S(=O)-alkyl groups, $-S(=O)-NH_2$, substituted and unsubstituted -S(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-S(=O)-N(alkyl)_2$ groups, $-C(=O)-NH_2$, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted $-C(=O)-N(alkyl)_2$ groups, substituted and unsubstituted -C(=O)-O-alkyl groups, $-NH_2$, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted -N(H)-C(=O)-alkyl groups, and substituted and unsubstituted -N(H)-S(=O)-alkyl groups; or R^8 may be absent if D is nitrogen;

R^9 is selected from the group consisting of substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted alkoxy groups, $-NH_2$,

substituted and unsubstituted cycloalkyl groups, and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms, or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members; and

R^{10} is –H, or R^9 and R^{10} join together to form a ring having 5, 6, or 7 ring members.

55. The method of claim 54, wherein the serine/threonine kinase is glycogen synthase 3

56. The method of claim 54, wherein

R^1 is selected from the group consisting of -H, -F, -Cl, -Br, -I, and straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^1 may be absent if W is nitrogen;

R^2 is selected from the group consisting of -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, $-NH_2$, $-CO_2H$, -OH, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted cycloalkenyl groups, substituted and unsubstituted cycloalkyl groups, substituted and unsubstituted alkoxy groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted $-N(alkyl)_2$ groups, substituted and unsubstituted heterocyclyl groups, and substituted and unsubstituted aryl groups; or R^2 may be absent if X is nitrogen;

R^3 is selected from the group consisting of -H, -F, -Cl, -Br, -I, -OH, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, substituted and unsubstituted alkoxy groups, $-CO_2H$, -CN, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(cycloalkyl) groups,

substituted and unsubstituted -N(alkyl)$_2$ groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted -C(=O)-heterocyclyl groups, substituted and unsubstituted -C(=O)-alkyl groups, substituted and unsubstituted -C(=O)-N(H)(alkyl) groups, substituted and unsubstituted -C(=O)-N(alkyl)$_2$ groups, -C(=O)-NH$_2$ groups, substituted and unsubstituted -C(=O)-N(H)(heterocyclyl) groups, and substituted and unsubstituted -C(=O)-N(H)(aryl) groups; or R^3 may be absent if Y is nitrogen;

R^4 is selected from the group consisting of -H, -F, -Cl, -Br, -I, and straight and branched chain alkyl groups having from 1 to 8 carbon atoms; or R^4 may be absent if Z is nitrogen;

R^5 is selected from the group consisting of -H, -F, -Cl, -Br, -I, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, and substituted and unsubstituted heterocyclyl groups; or R^5 may be absent if A is nitrogen;

R^6 is selected from the group consisting of -H, -Cl, -F, -Br, -OH, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms; or R^6 may be absent if B is nitrogen;

R^7 is selected from the group consisting of -H, -Cl, -F, -Br, -OH, substituted and unsubstituted heterocyclyl groups, substituted

and unsubstituted -N(H)(alkyl) groups, substituted and unsubstituted -N(H)(heterocyclyl) groups, substituted and unsubstituted -N(alkyl)(heterocyclyl) groups, substituted and unsubstituted alkoxy groups, and substituted and unsubstituted alkyl groups having from 1 to 8 carbon atoms; or R^7 may be absent if C is nitrogen; and

R^8 is selected from the group consisting of -H, -F, -Cl, -Br, -I, straight and branched chain alkyl groups having from 1 to 8 carbon atoms, and substituted and unsubstituted heterocyclyl groups; or R^8 may be absent if D is nitrogen.

57. The method of claim 54, wherein R^{10} is –H and R^9 is selected from the group consisting of substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted alkoxy groups, $-NH_2$, substituted and unsubstituted cycloalkyl groups, and substituted and unsubstituted straight and branched chain alkyl groups having from 1 to 8 carbon atoms.

58. The method of claim 54, wherein R^1 is selected from the group consisting of -H, -F, -Cl, and $–CH_3$ groups.

59. The method of claim 54, wherein R^2 is selected from the group consisting of –H, -Cl, -F, -Br, -I, $-CH_3$, $-NO_2$, -OMe, -CN, $-CO_2H$, substituted and unsubstituted 1,2,3,6-tetrahydropyridine groups, substituted and unsubstituted thiophene groups, substituted and unsubstituted imidazole groups, substituted and unsubstituted 3-pyridyl groups, substituted and unsubstituted 4-pyridyl groups, 2-substituted phenyl groups, 2,4-disubstituted phenyl groups, 4-substituted phenyl groups, 3-substituted phenyl groups, 2,6-disubstituted phenyl groups, phenyl, substituted and unsubstituted dialkylamino groups, and substituted and unsubstituted alkylamino groups.

60. The method of claim 54, wherein R^6 and R^7 are independently selected from the group consisting of –H, -F, -Cl, -OH, and substituted and unsubstituted heterocyclyl groups.

61. The method of claim 54, wherein A, B, C, and D are all carbon, and R^4, R^5, R^6, R^7, R^8, and R^{10} are all –H.

62. The method of claim 54, wherein the IC_{50} value of the compound is less than or equal to 0.1 μM with respect to glycogen synthase kinase 3.

63. A compound, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, or mixtures thereof wherein the compound is selected from one of the title compounds of Examples 51-90, Examples 93-100, Example 102, Example 104, Example 105, or Examples 339-1457, or mixtures thereof.

64. A method of inhibiting a serine threonine kinase or a tyrosine kinase or treating a biological condition mediated by the serine threonine kinase or the tyrosine kinase, comprising administering the compound of claim 63 to a subject.

65. The use of the compound of claim 63 in the manufacture of a medicament for inhibiting inhibiting a serine threonine kinase or a tyrosine kinase or treating a biological condition mediated by the serine threonine kinase or the tyrosine kinase.

66. The compound of claim 63, wherein the compound is selected from those listed in Table 3, those listed in Table 4, or those listed in Table 5.

67. A method of inhibiting a serine/threonine kinase in a subject or treating a biological condition mediated by the serine/threonine kinase in the subject, comprising: administering to the subject a compound, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, a pharmaceutically acceptable salt of the tautomer, an enantiomer or diastereomer of the compound, an enantiomer or diastereomer of the tautomer of the compound, a pharmaceutically acceptable salt of the enantiomer or diastereomer, a pharmaceutically acceptable salt of the enantiomer or diastereomer of the tautomer, or mixtures thereof wherein the compound is selected from one of the title compounds of Examples 51-90, Examples 93-100, Example 102, Example 104, Example 105, Examples 339-1457, or mixtures thereof.

68. The compound of claim 67, wherein the compound is selected from those listed in Table 3, those listed in Table 4, or those listed in Table 5.